UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/965,145	09/27/2001	Jimmy Ming-Der Hsu	AUS920010508US1	7434

7590	10/06/2003	**EXAMINER**

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EXAMINER
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ART UNIT	PAPER NUMBER
2671	3

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Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/965,145	HSU, JIMMY MING-DER
	Examiner	Art Unit	
	William P Lehner	2671	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-33_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-33_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _27 September 2001_ is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _26_ .

4)☐ Interview Summary (PTO-413) Paper No(s). _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

DETAILED ACTION

Drawings

1.   The drawings are objected to because they are misnumbered. FIG 3A should be

changed to FIG 3, and FIG 3D should be changed to FIG 4 in accordance with page 9

of the specification. A proposed drawing correction or corrected drawings are required

in reply to the Office action to avoid abandonment of the application. The objection to

the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Hijikata (5898433) in view of Oka (4600200).

3.   In regard to claim 1, note Hijikata's graphical user interface that displays a

plurality of windows, or objects, overlapping one another (column 1, lines 5-13). These

windows are arranged along a z-depth axis (column 1, lines 23-28). Graphic elements

may be displayed by applying shadows to the elements (column 1, lines 29-31). These

shadows are drop shadows (Official Notice). Stereoscopic shadows are cast by a near

window to a second, deeper window (column 1, lines 36-42).

4.   Hijikata does not say that the shadow is displaced from the first object in direct proportion to a z-depth difference between the first and second objects. Oka teaches that the altitude or the distance between a moving object and a second object upon which a shadow falls (a z-depth difference) can be represented by the shadow, because the picture becomes more realistic (column 17, lines 26-31). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hijikata to displace the shadow in direct proportion to a z-depth difference between the objects as taught by Oka because the picture becomes more realistic.

5.   In regard to claim 2, note Hijikata's overlapping windows (column 1, line 16).

6.   In regard to claim 3, window positions are input to the window processing system, which holds the window positions in the three-dimensional space (column 5, lines 50-56).

7.   In regard to claims 4 and 7, the window processing system is a computer-readable program, a data processing system, and an apparatus. It sends display instructions to the display terminal (FIG 5, elements 17 and 18). Note the above rejections to claim 1.

8.   In regard to claims 5 and 6, note the above rejections to claims 2 and 3, respectively.

9.   Claims 8, 10-14, 16-19, 21-25, 27-30, 32, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minami (6014472) in view of Oka (4600200).

10.   In regard to claims 8, 19, and 30, Minami's method, computer program, and

apparatus is a graphical user interface because it allows the operator to input through a

joystick (column 1, lines 24-25). Note the object displayed in three-dimensional

coordinate space (FIG 3). The shadow signal represents a shadow object. The shadow

object corresponds to a first object, which is the source video signal (column 5, lines 4-

12). A shadow from the first object falls on the second object, which is the screen plane

(FIG 7A, elements V2, V4, and 3). Transformation is determined by the distance

between the viewpoint and the screen plane and the distance between the viewpoint

and the object (column 9, lines 34-38), and the object lies between the viewpoint and

the screen plane in the depth dimension. This transformation includes translation in the

x-axis and y-axis (column 8, lines 47-48). The first object, unoccluded portion of the

second object, and occluded region of the second object are displayed on a monitor

screen (FIG 2, element 3), where the second object is the plane underneath the first

object.

11.   Minami does not specifically say that the translation, or displacement, is

proportional to the z-dimensional difference between the first object and the second

object. Oka teaches that the altitude or the distance between a moving object and a

second object upon which a shadow falls (a z-depth difference) can be represented by

the shadow, because the picture becomes more realistic (column 17, lines 26-31).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify Minami to displace the shadow in direct proportion to a z-

depth difference between the objects as taught by Oka because the picture becomes more realistic.

12.   In regard to claims 10, 21, and 32, note the translation along the x-axis, y-axis, and z-axis (column 8, lines 47-48).

13.   In regard to claims 11 and 22, note the translation in accordance with the light source 60 (FIG 7A and B).

14.   In regard to claims 12 and 23, parameters Ix, Iy, and Iz concerning 3-D transformation are input (column 3, lines 53-61). These parameters are used in translation (column 8, lines 45-48).

15.   In regard to claims 13 and 24, the shadow signal is transparent but it adds black to the signal where the shadow falls (column 5, lines 36-43).

16.   In regard to claims 14 and 25, parameters concerning the shadow object are input (column 3, lines 53-61).

17.   In regard to claims 16, 17, 27, and 28, the first object and the shadow object have substantially the same size and shape (FIG 7A, elements V2 and V4).

18.   In regard to claims 18, 29, and 33, object V2 and plane 3 are planar objects in three-dimensional coordinate space (FIG 7A). Object V2 could be parallel to plane 3. Objects may be translated (column 8, lines 47-48). Objects are rotated about the Z-axis but not the X- or Y-axis (column 23, line 5).

19.   Claims 9, 20, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minami (6014472) in view of Oka (4600200), in further view of Robertson

(5513303). Minami performs transformations and displays a first object, the unoccluded

portion of the second object, and the occluding region of the shadow object, but does

not render them into a bitmap before displaying. Robertson teaches that rendering

objects into a bitmap that is repeatedly repositioned improves the performance of

transformations (column 1, lines 18-29). Therefore, it would have been obvious to one

of ordinary skill in the art at the time the invention was made to modify Minami to render

into a bitmap before displaying as taught by Robertson because it improves

performance during transformations.

20.   Claims 15 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Minami (6014472) in view of Oka (4600200), in further view of Farrell (5143433).

Minami teaches that a parallel light source may be used to create a shadow (FIG 10B,

element 70 and V6). This results in a shadow that looks rough because it came from

many light sources and not one large light source. Farrell teaches that a diffuser, or

diffusion filter, may be used to smooth out the light intensity across a surface area in a

more uniform manner. Therefore, it would have been obvious to one of ordinary skill in

the art at the time the invention was made to modify Minami to use a diffusion filter as

taught by Farrell because it makes the shadow smoother in the case of parallel light

sources.